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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,080	03/01/2000	Todd O. Bolken	MICS:0043/99-0634	3543

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Michael G Fletcher
Fletcher Yoder & Van Someren
P O Box 692289
Houston, TX 77269-2289

EXAMINER

LOUIE, WAI SING

ART UNIT PAPER NUMBER

2814

DATE MAILED: 12/05/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/516,080

Applicant(s)

BOLKEN, TODD O.

Examiner

Wai-Sing Louie

Art Unit

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

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DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "90" and "95" have both been used to designate "the film". What is the different between film 90 and film 95? Correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 9-11, "the bottom support plate" has no proper antecedent basis. For the purpose of examination, "the first support plate" is assumed.

In claim 5, do not understand what "between the first support plate on the cavity plate" means. For the purpose of examination, "between the first support plate and the cavity plate" is assumed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-6, 8-14, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Neu (US 5,405,255).

With regard to claims 1 and 19, Neu discloses an integrated circuit encapsulation apparatus (col. 4, line 15 to col. 8, line 36) comprising:

- A first support plate 27;
- A second support plate 54 proximately positioned with respect to the first support plate;
- A cavity plate 29 positioned between the first support plate and the second support plate, where the cavity plate having an aperture configured to accept a protruding portion of the circuit package (fig. 1).

With regard to claim 2, Neu discloses the first support plate is configured to support a plurality of circuit packages (fig. 2).

With regard to claim 5, Neu discloses a carrier strip 32 carrying a plurality of objects to be encapsulated (col. 5, lines 5-9). The strip is disposed between the first support plate and the cavity plate (fig. 1).

With regard to claim 6, Neu disclose the carrier strip is made of resilient material (col. 5, line 14).

With regard to claim 8, Neu discloses the first support plate 27 comprises a plateau (see fig. 8 area 49), which resides adjacent to a recess in the cavity plate 29.

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With regard to claims 9 and 10, Neu discloses a plurality of push rods 62 to separate the cavity plate from the first (bottom) support plate (col. 7, lines 61-66).

With regard to claims 11 and 12, Neu discloses rail ejection pins 64 to knocking out chip, which are mechanically controlled (col. 7, line 66 to col. 8, line 7).

With regard to claim 13, Neu discloses the second support plate 54 comprises a cavity 60 (fig. 1).

With regard to claim 14, Neu discloses a second support plate 54 having a cavity 60, which is for dispensing molding compound within the cavity (col. 7, lines 35-41).

With regard to claim 17, Neu discloses the aperture is configured to yield a circuit package having its non-protruding surface completely cover with a molding compound (Col. 5, lines 34-56).

With regard to claim 18, Neu discloses the molding compound is resin, which is an insulating material (col. 7, line 40).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4, 7, 15-16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neu (US 5,405,255).

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With regard to claims 3, 4, and 7, Neu do not disclose the first support plate is comprised of a rigid material such as metal. However, if the workpiece could be molten resin, it is obvious that the first support plate has to be able to handle high temperature. Steel is a good choice. However, if the cavity plate has a tight clearance for the IC chip, it is obvious that the first support plate should be made of resilient material such as high temperature plastic.

With regard to claims 15 and 16, Neu discloses the aperture is sized to create a peripheral void at the same height as the protrusion portion of the circuit package to permit a molding compound to be deposited. However, the cavity plate can be designed for many sizes and shapes. Therefore, it is obvious to size the aperture having a peripheral void about the protrusion portion of the circuit package to permit a molding compound to be deposited and is merely a design choice.

With regard to claim 20, Neu discloses the workpiece is a semiconductor chip (col. 5, line 9). A semiconductor chip could be a memory device.

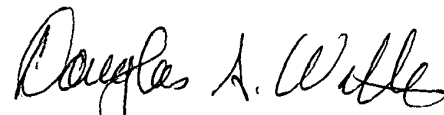
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (703) 305-0474.

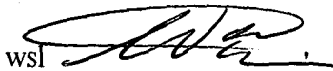
The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Douglas A. Wille
Patent Examiner


wsl

November 27, 2001